AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A method of determining the quality of a wireless communications link on the basis of an encoded signal that is transmitted via the communications link and that includes at least two signal portions experiencing different states of one or more transmission channels, comprising:

providing individual channel quality values (γ_k) for the different channel states, and

determining a quality measure (γ_{eff}) indicative of the link quality by averaging the individual channel quality values (γ_k) in the exponential domain.

2. (Original) The method of claim 1, wherein a non-linear mean value function is applied to average the individual channel quality values (γ_k).

3. (Original) The method of claim 1, wherein each individual channel quality value (γ_k) is weighted by a probability measure (p_k) indicative of a probability for a signal portion experiencing the respective channel quality value (γ_k).

4. (Currently Amended) The method of claim 1, wherein the determination of the quality measure (γ_{eff}) is performed according to

$$\gamma_{eff} = -\log_e\left(\sum_{k=1}^{N} p_k \exp(-\gamma_k \cdot \alpha)\right)\cdot \beta,$$

wherein,

γ_{eff} is the quality measure,

γ_k are the individual channel quality values, N is the ~~τηε~~ number of signal portions included in the transmitted signal,

p_k are ~~αρε~~ probability measures for individual channel quality values and

α and ~~ανδ~~ β are optional correction factors.

5. (Original) The method of claim 1, wherein at least one of

the quality measure (γ_{eff}) and

the individual channel quality values (γ_k) is adapted by at least one of

- a first correction term (γ_{cod}) associated with a particular coding scheme (MCS) used for transmitting the signal via the communications link, and

- a second correction term (γ_{mod}) associated with a particular modulation scheme used for transmitting the signal via the communications link.

6. (Original) The method of claim 5, wherein the first correction term (γ_{cod}) is chosen such that a deviation ($\Delta\gamma_{eff}$) of a reference quality measure (γ_{eff}) determined for a reference communications link from a measured quality measure (γ_{eff}) determined for an actual communications link is minimal for a target link quality parameter, wherein the target link quality parameter is a Frame Error Rate for the target (FER_{tar}) or a Bit Error Rate for the target (BER_{tar}).

7. (Original) The method of claim 1, wherein the quality measure (γ_{eff}) is determined according to

$$\gamma_{eff} = -\log_e\left(\sum_{k=1}^{N} p_k \exp-\left(\frac{\gamma_k}{\gamma_{cod} * \gamma_{mod}}\right)\right) * \gamma_{cod} * \gamma_{mod},$$

wherein

γ_{eff} is the quality measure,

γ_k are the individual channel quality values,

N is the number of signal portions included in the transmitted signal,

p_k are probability measures for individual channel quality values,

γ_{cod} is a first correction term associated with a particular coding format, and

γ_{mod} is a second correction term associated with a particular modulation scheme.

8. (Original) The method of claim 1, further comprising determining a link quality parameter for the communications link on the basis of the individual channel quality values (γ_k), wherein the link quality parameter is a Frame Error Rate (FER) or a Bit Error Rate (BER).

9. (Original) The method of claim 8, wherein the link quality parameter is determined from a look-up table associating predetermined quality measures with link quality parameters.

10. (Original) The method of claim 1, further comprising transmitting the quality measure (γ_{eff}) or a parameter derived therefrom back to a transmitter of the encoded signal.

11. (Original) The method of claim 1, further comprising adapting the communications link in dependence of the quality measure (γ_{eff}) or a parameter derived therefrom.

12. (Original) The method of claim 11, wherein adapting the communications link includes controlling the transmit power of signals to be transmitted via the communications link.

13. (Original) The method of claim 11, wherein adapting the communications link includes adapting at least one of a coding scheme and a modulation scheme.

14. (Original) The method of 11, wherein adapting the communications link includes an inner-loop power control that is based on the quality measure (γ_{eff}) or the parameter derived therefrom omitting an outer-loop power control for controlling a setpoint of the inner-loop power control.

15. (Original) The method of claim 1, wherein the quality measure (γ_{eff}) or a parameter derived therefrom is used in context with allocating a transmit power to signal re-transmissions that are performed according to an incremental redundancy technique.

16. (Original) The method of claim 1, further comprising completely or partially replacing transmission resources currently in use if the quality measure satisfies a predefined condition.

17. (Original) The method of claim 1, further comprising completely or partially replacing transmission resources currently in use if a parameter derived from the quality measure satisfies a predefined condition.

18. (Original) The method of claim 1, wherein the individual channel quality values (γ_κ) are obtained for symbols of a code word transmitted by means of the signal.

19. (Original) The method of claim 17, wherein the symbols are Orthogonal Frequency Division Multiplexing (OFDM) symbols or parts thereof.

20. (Original) The method of claim 1, wherein the individual channel quality values (γ_κ) are indicative of signal-to-noise ratios (SNR) or signal-to-interference ratios (SIR).

21. (Original) A receiver with a functionality for determining the quality of a wireless communications link that includes one or more transmission channels with at least two different states, comprising:

a means for providing individual channel quality values (γ_κ) for the different states, and

a means for determining a quality measure (γ_{eff}) indicative of the link quality by averaging the transmission quality values (γ_κ) in the exponential domain.

22. (Original) The receiver of claim 21, further comprising a unit for generating

a signal that includes the quality measure (γ_{eff}) or a parameter derived therefrom and that is to be transmitted to a transmitter of the signal.

23. (Original) A system for communications via wireless communications links, comprising:

a receiver having a means for determining the quality of a wireless communications link that includes one or more transmission channels with at least two different states, including:

a means for providing individual channel quality values (γ_k) for the different states, and

a means for determining a quality measure (γ_{eff}) indicative of the link quality by averaging the transmission quality values (γ_k) in the exponential domain, and

a controller for adapting the communications link according to the quality measure (γ_{eff}) or a parameter derived therefrom.

24. (Original) The communications system of claim 23, wherein the controller is configured to implement a power control scheme and further comprising a single power control loop which is based on a comparison of the quality measure (γ_{eff}) or a parameter derived therefrom with a static target value.

25. (Original) The communications system of claim 23, wherein the controller is configured to adapt the communications link on the basis of an estimation of an average signal power for encoded signals to be transmitted via the communications link.

26. (Original) The communications system of claim 23, wherein the controller is configured to select transmission resources completely or partially replacing the current transmission resources if the quality measure or a parameter derived therefrom satisfies a predefined condition.